AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

What is claimed is:

1.   [original] An in vitro method of predicting the association of a test agent with zone 3 necrosis, comprising:

a)   determining the level of expression of each of the genes listed in Table 5 in a cell exposed to said test agent;

b)   comparing said level of expression to the level of expression of said genes in a control population exposed to at least one control agent;

c)   identifying a statistically significant alteration in the level of expression in the presence of the test agent

wherein, if present, said alteration indicates that said test agent is predicted to be toxic.

2.   [original] The method of claim 1, wherein said level of expression is determined by detecting a gene transcript.

3.   [original] An in vitro method of predicting the association of a test agent with zone 3 necrosis, comprising:

a)   determining the level of expression of each of TOXMARKER 42, 59, 65, 66, 71, 76, and 97 in a cell exposed to said test agent;

b)   comparing said level of expression to the level of expression of said genes in a control population exposed to at least one control agent;

c)   identifying a statistically significant alteration in the level of expression in the presence of the test agent

wherein, if present, said alteration indicates that said test agent is predicted to be toxic.

4.   [original] The method of claim 3, wherein said level of expression is determined by detecting a gene transcript.

5.   [original] An *in vitro* method for the prediction of the association of a test agent with zone 3 necrosis, comprising:

a) contacting a cell with a test agent;

b) evaluating the level of expression of at least five TOXMARKER genes listed on Table 5

c) comparing said level of expression of those genes recited in step (b) to the level of expression of said genes in a control population exposed to at least one control agent;

d) identifying from the comparison in step (c) an statistically significant alteration at a p-value of least 0.05, in expression levels of said TOXMARKER genes in the presence of the test agent,

wherein said alteration indicates that said agent is predicted to be toxic.

6.   [original] The method of claim 5, wherein said level of expression is determined by detecting a gene transcript.

7.   [original] An *in vivo* method of predicting the association of a test agent with zone 3 necrosis, comprising:

a) providing a cell from a subject exposed to said test agent

b) determining the level of expression of each of the TOXMARKER 42, 59, 65, 66, 71, 76, and 97 in said cell;

c) comparing said level of expression to the level of expression of said genes in a control population exposed to at least one control agent;

d) identifying a statistically significant alteration in the level of expression in the presence of the test agent

wherein, if present, said alteration indicates that said test agent is predicted to be toxic.

8.   [original] The method of claim 7, wherein said level of expression is determined by detecting a gene transcript.

9.   [original] A method for screening for changes in gene expression associated with a toxic
agent, comprising:

    a) determining the level of expression of each of the genes listed in Table 5 in a cell
    exposed to a test agent;

    b) comparing said level of expression to the level of expression of said genes in a
    control population exposed to at least one control agent;

    c) identifying a statistically significant alteration in the level of expression in the
    presence of the test agent

thereby screening for changes in gene expression associated with a toxic agent.

10. – 11. [canceled]

12.   [new] A method of predicting the association of a test agent with zone 3 necrosis,
comprising:

    a) determining the level of expression of TOXMARKER 71 in a cell exposed to said
    test agent;

    b) determining the level of expression of at least one TOXMARKER selected from
    the group consisting of TOXMARKERs 1-70 and 72-132 in said cell;

    c) comparing the level of expression in said cell of TOXMARKER 71 and the
    TOXMARKER(s) selected in step (b) to the level of expression in a control
    population exposed to at least one control agent; and

    d) identifying a statistically significant alteration in the level of expression in the
    presence of the test agent,

wherein, if present, said alteration indicates that said test agent is predicted to be toxic.

13.   [new] The method of claim 12, wherein the TOXMARKERs selected in step (b) are
TOXMARKERs 42, 59, 65, 66, 76 and 97.

14.   [new] The method of claim 12, wherein said level of expression is determined by
detecting a gene transcript.